

BY - LAWS
OF
RICHARDSON ELECTRONICS, LTD.

ARTICLE I

OFFICES

SECTION 1. REGISTERED OFFICE.--The registered office shall be established and maintained at the office of the United States Corporation Company, in the City of Dover, in the County of Kent, in the State of Delaware, and said corporation shall be the registered agent of this corporation in charge thereof.

SECTION 2. OTHER OFFICES.--The corporation may have other offices, either within or without the State of Delaware, at such place or places as the Board of Directors may from time to time appoint or the business of the corporation may require.

ARTICLE II

MEETINGS OF STOCKHOLDERS

SECTION 1. ANNUAL MEETINGS.--Annual meetings of stockholders for the election of directors and for such other business as may be stated in the notice of the meeting, shall be held at such place, either within or without the State of Delaware, and at such time and date as the Board of Directors, by resolution, shall determine and as set forth in the notice of the meeting. In the event the Board of Directors fails to so determine the time, date and place of meeting, the annual meeting of stockholders shall be held at the registered office of the corporation in Delaware on the first Thursday in October of each year.

If the date of the annual meeting shall fall upon a legal holiday, the meeting shall be held on the next succeeding business day. At each annual meeting, the stockholders entitled to vote shall elect a Board of Directors and they may transact such other corporate business as shall be stated in the notice of the meeting.

SECTION 2. OTHER MEETINGS.--Meetings of stockholders for any purpose other than the election of directors may be held at such time and place, within or without the State of Delaware, as shall be stated in the notice of the meeting.

SECTION 3. VOTING.--Each stockholder entitled to vote in accordance with the terms of the Certificate of Incorporation and in accordance with the provisions of these By-Laws shall be entitled to such number of votes, in person or by proxy, for each share of stock entitled to vote held by such stockholder as provided in the Certificate of Incorporation or the resolution or resolutions of the directors establishing the voting rights, if any, of Preferred Stock or any series thereof, but no proxy shall be voted after three years from its date unless such proxy provides for a longer period. Upon the demand of any stockholder, the vote for directors and the vote upon any question before the meeting, shall be by ballot. All elections for directors shall be decided by plurality vote; all other questions shall be elected by majority vote except as otherwise provided by the Certificate of Incorporation or the laws of the State of Delaware.

A complete list of the stockholders entitled to vote at the ensuing election, arranged in alphabetical order, with the address of each, and the number of shares held by each, shall be open to the examination of any stockholder, for any purpose germane to the meeting, during ordinary business hours, for a period of at least ten days prior to the meeting, either at a place within the city where the meeting is to be held, which place shall be specified in the notice of the meeting, or, if not so specified, at the place where the meeting is to be held. The list shall also be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present.

SECTION 4. QUORUM.--Except as otherwise required by Law, by the Certificate of Incorporation or by these By-Laws, the presence, in person or by proxy, of stockholders holding stock of the corporation entitled to vote having a majority of voting power shall constitute a quorum at all meetings of the stockholders. In case a quorum shall not be present at any meeting, a majority in voting interest of the stockholders entitled to vote thereat, present in person or by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until the requisite amount of stock entitled to vote shall be present. At any such adjourned meeting at which the requisite amount of stock entitled to vote shall be represented, any business may be transacted which might have been transacted at the meeting as originally noticed; but only those stockholders entitled to vote at the meeting as originally noticed shall be entitled to vote at any adjournment or adjournments thereof.

SECTION 5. SPECIAL PURPOSES.--Special meetings of the stockholders for any purpose or purposes may be called by the Chairman of the Board, President or Secretary, or by resolution of the directors.

SECTION 6. NOTICE OF MEETINGS.--Written notice, stating the place, date and time of the meeting, and the general nature of the business to be considered, shall be given to each stockholder entitled to vote thereat at his address as it appears on the records of the corporation, not less than ten nor more than sixty days before the date of the meeting.

SECTION 7. ACTION WITHOUT MEETING.--Unless otherwise provided by the Certificate of Incorporation, any action required to be taken at any annual or special meeting of stockholders, or any action which may be taken at any annual or special meeting, may be taken without a meeting, without prior notice and without a vote, if a consent in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

ARTICLE III

DIRECTORS

SECTION 1. NUMBER AND TERM.--The number of directors shall be eleven (11). The directors shall be elected at the annual meeting of the stockholders and each director shall be elected to serve until his successor shall be elected and shall qualify.

SECTION 2. RESIGNATIONS.--Any director, member of a committee or other officer may resign at any time. Such resignation shall be made in writing, and shall take effect at the time specified therein, and if no time be specified, at the time of its receipt by the Chairman of the Board, President or Secretary. The acceptance of a resignation shall not be necessary to make it effective.

SECTION 3. VACANCIES.--If the office of any director, member of a committee or other officer becomes vacant, the remaining directors in office, though less than a quorum by a majority vote, may appoint any qualified person to fill such vacancy, who shall hold office for the unexpired term and until his successor shall be duly chosen.

SECTION 4. REMOVAL.--Except as hereinafter provided, any director or directors may be removed either for or without cause at any time by the affirmative vote of the holders of the shares of stock outstanding and entitled to vote having a majority of the voting power, at a special meeting of the stockholders called for the purpose and the vacancies thus created may be filled, at the meeting held for the purpose of removal, by the affirmative vote of a majority in voting interest of the stockholders entitled to vote.

Unless the Certificate of Incorporation otherwise provides, stockholders may effect removal of a director who is a member of a classified Board of Directors only for cause. If the Certificate of Incorporation provides for cumulative voting and if less than the entire board is to be removed, no director may be removed without cause if the votes cast against his removal would be sufficient to elect him if then cumulatively voted at an election of the entire board of directors, or, if there be classes of directors, at an election of the class of directors of which he is a part.

If the holders of any class or series are entitled to elect one or more directors by the provisions of the Certificate of Incorporation, these provisions shall apply, in respect to the removal without cause of a director or directors so elected, to the vote of the holders of the outstanding shares of that class or series and not to the vote of the outstanding shares as a whole.

SECTION 5. INCREASE OF NUMBER.--The number of directors may be increased by amendment of these By-Laws by the affirmative vote of a majority of the directors, though less than a quorum, or, by the affirmative vote of a majority in voting interest of the stockholders, at the annual meeting or at a special meeting called for that purpose, and by like vote the additional directors may be chosen at such meeting to hold office until the next annual election and until their successors are elected and qualify.

SECTION 6. POWERS.--The Board of Directors shall exercise all of the powers of the corporation except such as are by law, or by the Certificate of Incorporation of the corporation or by these By-Laws conferred upon or reserved to the stockholders.

SECTION 7. COMMITTEES.--The Board of Directors may, by resolution or resolutions passed by a majority of the whole board, designate one or more committees, each committee to consist of two or more of the directors of the corporation. The board may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of any member of such committee or committees, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

Any such committee, to the extent provided in the resolution of the Board of Directors, or in these By-Laws, shall have any may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the corporation, and may authorize the seal of the corporation to be affixed to all papers which may require it; but no such committee shall have the power or authority in reference to amending the Certificate of Incorporation, adopting an agreement of merger or consolidation, recommending to the stockholders the sale, lease or exchange of all or substantially all of the corporation's property and assets, recommending to the stockholders a dissolution of the corporation or a revocation of a dissolution, or amending the By-Laws of the corporation; and, unless the resolution, these By-Laws, or the Certificate of Incorporation expressly so provide, no such committee shall have the power or authority to declare a dividend or to authorize the issuance of stock.

SECTION 8. MEETINGS.--The newly elected directors may hold their first meeting for the purpose or organization and the transaction of business, if a quorum be present, immediately after the annual meeting of the stockholders; or the time and place of such meeting may be fixed by consent in writing of all the directors.

Regular meetings of the directors may be held without notice at such places and times as shall be determined from time to time by resolution of the directors.

Special meetings of the board may be called by the Chairman of the Board or by the Secretary on the written request of any two directors on at least two day's notice to each director and shall be held at such place or places as may be determined by the directors, or as shall be stated in the call of the meeting.

Unless otherwise restricted by the Certificate of Incorporation or these By-Laws, members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or any committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

SECTION 9. QUORUM.--A majority of the directors shall constitute a quorum for the transaction of business. If at any meeting of the board there shall be less than a quorum present, a majority of those present may adjourn the meeting from time to time until a quorum is obtained, and no further notice thereof need be given other than by announcement at the meeting which shall be so adjourned.

SECTION 10. COMPENSATION.--Directors shall not receive any stated salary for their services as directors or as members of committees, but by resolution of the board a fixed fee and expenses of attendance may be allowed for attendance at each meeting. Nothing herein contained shall be construed to preclude any director from serving the corporation in any other capacity as an officer, agent or otherwise, and receiving compensation therefor.

SECTION 11. ACTION WITHOUT MEETING.--Any action required or permitted to be taken at any meeting of the Board of Directors, or of any committee thereof, may be taken without a meeting, if prior to such action a written consent thereto is signed by all members of the board, or of such committee as the case may be, and such written consent is filed with the minutes of proceedings of the board or committee.

ARTICLE IV

OFFICERS

SECTION 1. OFFICERS.--The officers of the corporation shall be a Chairman of the Board, a President, a Treasurer, and a Secretary, all of whom shall be elected by the Board of Directors and who shall hold office until their successors are elected and qualified. In addition, the Board of Directors may elect one or more Vice-Presidents and such Assistant Secretaries and Assistant Treasurers as they may deem proper. None of the officers of the corporation need be directors. The officers shall be elected at the first meeting of the Board of Directors after each annual meeting. More than two offices may be held by the same person.

SECTION 2. OTHER OFFICERS AND AGENTS.--The Board of Directors may appoint such other officers and agents as it may deem advisable, who shall hold their offices for such terms and shall exercise such powers and perform such duties as shall be determined from time to time by the Board of Directors.

SECTION 3. CHAIRMAN.--The Chairman of the Board of Directors shall be the chief executive officer of the corporation. He or she shall preside at all meetings of the shareholders and of the Board of Directors; and, subject to the direction and control of the Board of Directors, he or she shall be in charge of the business of the corporation and shall direct the policy and management of the corporation. In general he or she shall discharge all the duties incident to the position of chief executive officer and such other duties as may be prescribed by the Board of Directors from time to time. He or she may sign certificates for shares of the corporation, any deeds, mortgages, bonds, contracts, or other instruments which the Board of Directors have authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board of Directors or by these By-Laws to some other officer or agent of the corporation, or shall be required by law to be otherwise signed or executed, and he or she may accomplish such execution either under or without the seal of the corporation and either individually or with the Secretary, any Assistant Secretary, or any other officer thereunto authorized by the Board of Directors or these By-Laws, according to the requirements of the form of the instrument. He or she may vote or execute consents or proxies with respect to all securities which the corporation is entitled to vote except as and to the extent such authority shall be vested in a different officer or agent of the corporation by the Board of Directors.

SECTION 4. PRESIDENT.--The President shall be the chief operating officer of the corporation and, subject to the direction and control of the Board of Directors and Chairman of the Board, shall in general supervise, manage and control all of the operations, business and affairs of the corporation. In the absence of the Chairman of the Board, he or she shall preside at all meetings of the shareholders and of the Board of Directors. He or she may sign certificates for shares of the corporation, any deeds, mortgages, bonds, contracts or other instruments which the Board of Directors have authorized to be executed, except in cases where the signing and execution thereof shall be expressly delegated by the Board of Directors or by these By-Laws to some other officer or agent of the corporation, or shall be required by law to be otherwise signed or executed, and he or she may accomplish such execution either under or without the seal of the corporation and either individually or with the Secretary, any Assistant Secretary, or any other officer thereunto authorized by the Board of Directors or these By-Laws, according to the requirements of the form of the instrument, and he or she may accomplish such execution either under or without the seal of the corporation and either individually or with the Secretary, any Assistant Secretary, or any other officer thereunto authorized by the Board of Directors or these By-Laws, according to the requirements of the form of the instrument. In

general he or she shall perform all duties incident to the office of President and such other duties as may be prescribed by the Chairman of the Board or by the Board of Directors from time to time.

SECTION 5. VICE-PRESIDENT.--The Vice President (or in the event there be more than one Vice President, each of the Vice Presidents) shall assist the Chairman of the Board and President in the discharge of their duties as the Chairman of the Board and President may direct and shall perform such other duties as from time to time may be assigned to him or her by the Chairman of the Board or President or by the Board of Directors. In the absence of the President or in the event of his or her inability or refusal to act, the Vice President (or in the event there be more than one Vice President, the Vice Presidents in the order designated by the Board of Directors, or by the Chairman of the Board if the Board of Directors has not made such a designation, or by the President if neither the Chairman of the Board nor the Board of Directors has made such a designation, or in the absence of any designation, then in the order of seniority of tenure as Vice President) shall perform the duties of the President, and when so acting, shall have all the powers of and be subject to all the restrictions upon the President. Except in those instances in which the authority to execute is expressly delegated to another officer or agent of the corporation or a different mode of execution is expressly prescribed by the Board of Directors or these By-Laws, the Vice President (or each of them if there are more than one) may execute for the corporation certificates for its shares and any contracts, deeds, mortgages, bonds or other instruments which the Board of Directors has authorized to be executed, and he or she may accomplish such execution either under or without the seal of the corporation and either individually or with the Secretary, any Assistant Secretary, or any other officer thereunto authorized by the Board of Directors, according to the requirements of the form of the instrument.

SECTION 6. TREASURER.--The Treasurer shall have the custody of the corporate funds and securities and shall keep full and accurate account of receipts and disbursements in books belonging to the corporation. He shall deposit all moneys and other valuables in the name and to the credit of the corporation in such depositories as may be designated by the Board of Directors.

The Treasurer shall disburse the funds of the corporation as may be ordered by the Board of Directors, or the Chairman of the Board or the President, taking proper vouchers for such disbursements. He shall render to the Chairman of the Board or the President and Board of Directors at the regular meetings of the Board of Directors, or whenever they may request it, an account of all his transactions as Treasurer and of the financial condition of the corporation. If required by the Board of Directors, he shall give the corporation a bond for the faithful discharge of his duties in such amount and with such surety as the board shall prescribe.

SECTION 7. SECRETARY.--The Secretary shall give, or cause to be given, notice of all meetings of stockholders and directors, and all other notices required by law or by these By-Laws, and in case of his absence or refusal or neglect so to do, any such notice may be given by any person thereunto directed by the Chairman of the Board or the President, or by the directors, or stockholders, upon whose requisition the meeting is called as provided in these By-Laws. He shall record all the proceedings of the corporation and of the directors in a book to be kept for that purpose, and shall perform such other duties as may be assigned to him by the directors or Chairman of the Board or the President. He shall have the custody of the seal of the corporation and shall affix the same to all instruments requiring it, when authorized by the directors or the Chairman of the Board or the President, and attest the same.

SECTION 8. ASSISTANT TREASURERS AND ASSISTANT SECRETARIES.--Assistant Treasurers and Assistant Secretaries, if any, shall be elected and shall have such powers and shall perform such duties as shall be assigned to them, respectively, by the directors.

ARTICLE V

MISCELLANEOUS

SECTION 1. CERTIFICATES OF STOCK.--Certificates of stock, signed by the Chairman of the Board, President or Vice-President, and the Treasurer or an Assistant Treasurer, or Secretary or an Assistant Secretary, shall be issued to each stockholder certifying the number of shares owned by him in the corporation. Any of or all the signatures may be facsimiles.

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SECTION 2. LOST CERTIFICATES.--A new certificate of stock may be issued in the place of any certificate theretofore issued by the corporation, alleged to have been lost or destroyed, and the directors may, in their discretion, require the owner of the lost or destroyed certificate, or his legal representatives, to give the corporation a bond, in such sum as they may direct, not exceeding double the value of the stock, to indemnify the corporation against any claim that may be made against it on account of the alleged loss of any such certificate, or the issuance of any such new certificate.

SECTION 3. TRANSFER OF SHARES.--The shares of stock of the corporation shall be transferable only upon its books by the holders thereof in person or by their duly authorized attorneys or legal representatives, and upon such transfer the old certificates shall be surrendered to the corporation by the delivery thereof to the person in charge of the stock and transfer books and ledgers, or to such other person as the directors may designate, by whom they shall be cancelled, and new certificates shall thereupon be issued. A record shall be made of each transfer and whenever a transfer shall be made for collateral security, and not absolutely, it shall be so expressed in the entry of the transfer.

SECTION 4. STOCKHOLDERS RECORD DATE.--In order that the corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, or to express consent to corporate action in writing without a meeting, or entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix, in advance, a record date, which shall not be more than sixty nor less than ten days before the date of such meeting, nor more than sixty days prior to any other action. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

SECTION 5. DIVIDENDS.--Subject to the provisions of the Certificate of Incorporation, the Board of Directors may, out of funds legally available therefor at any regular or special meeting, declare dividends upon the capital stock of the corporation as and when they deem expedient. Before declaring any dividend there may be set apart out of any funds of the corporation available for dividends, such sum or sums as the directors from time to time in their discretion deem proper for working capital or as a reserve fund to meet contingencies or for equalizing dividends or for such other purposes as the directors shall deem conducive to the interests of the corporation.

SECTION 6. SEAL.--The corporate seal shall be circular in form and shall contain the name of the corporation, the year of its creation and the words "CORPORATE SEAL DELAWARE." Said seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

SECTION 7. FISCAL YEAR.--The fiscal year of the corporation shall be determined by resolution of the Board of Directors.

SECTION 8. CHECKS.--All checks, drafts or other orders for the payment of money, notes or other evidences of indebtedness issued in the name of the corporation shall be signed by such officer or officers, agent or agents of the corporation, and in such manner as shall be determined from time to time by resolution of the Board of Directors.

SECTION 9. NOTICE AND WAIVER OF NOTICE.--Whenever any notice is required by these By-Laws to be given, personal notice is not meant unless expressly so stated, and any notice so required shall be deemed to be sufficient if given by depositing the same in the United States mail, postage prepaid, addressed to the person entitled thereto at his address as it appears on the records of the corporation, and such notice shall be deemed to have been given on the day of such mailing. Stockholders not entitled to vote shall not be entitled to receive notice of any meetings except as otherwise provided by Statute.

Whenever any notice whatever is required to be given under the provisions of any law, or under the provisions of the Certificate of Incorporation of the corporation or these By-Laws, a waiver thereof in writing, signed by the person or persons entitled to said notice, whether before or after the time stated therein, shall be deemed equivalent thereto.

ARTICLE VI

AMENDMENTS

These By-Laws may be altered or repealed and By-Laws may be made at any annual meeting of the stockholders or at any special meeting thereof if notice of the proposed alteration or repeal or By-Law or By-Laws to be made be contained in the notice of such special meeting, by the affirmative vote of the stock issued and outstanding and entitled to vote thereat having a majority of the voting power, or by the affirmative vote of a majority of the Board of Directors, at any regular meeting of the Board of Directors, or at any special meeting of the Board of Directors, if notice of the proposed alteration or repeal, or By-Law or By-Laws to be made, be contained in the notice of such special meeting.

ARTICLE VII

INDEMNIFICATION

SECTION 1. GENERAL.--The corporation shall indemnify, and advance Expenses (as hereinafter defined) to, Indemnitee (as hereinafter defined) as provided in this Article and to the fullest extent permitted by applicable law, as the same exists or may hereafter be amended.

SECTION 2. PROCEEDINGS OTHER THAN PROCEEDINGS BY OR IN THE RIGHT OF THE CORPORATION.--Indemnitee shall be entitled to the rights of indemnification provided in this Section 2 if, by reason of his Corporate Status (as hereinafter defined), he is, or is threatened to be made, a party to any Proceeding (as hereinafter defined), other than a Proceeding by or in the right of the corporation. Pursuant to this Section 2, Indemnitee shall be indemnified against Expenses, judgments, penalties, fines (including, without limitation, excise taxes assessed on an Indemnitee with respect to an employee benefit plan) and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with such Proceeding or any claim, issue or matter therein, if he acted in Good Faith.

SECTION 3. PROCEEDINGS BY OR IN THE RIGHT OF THE CORPORATION.--Indemnitee shall be entitled to the rights of indemnification provided in this Section 3 if, by reason of his Corporate Status, he is, or is threatened to be made, a party to any Proceeding brought by or in the right of the corporation to procure a judgment in its favor. Pursuant to this Section, Indemnitee shall be indemnified against Expenses, judgments, penalties and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with such Proceeding if he acted in Good Faith. Notwithstanding the foregoing, no indemnification against such Expenses, judgments, penalties and amounts paid in settlement shall be made in respect of any claim, issue or matter in such Proceeding as to which Indemnitee shall have been adjudged to be liable to the corporation if applicable law prohibits such indemnification; provided, however, that, if applicable law so permits, indemnification against Expenses, judgments, penalties and amounts paid in settlement shall nevertheless be made by the corporation in such event if and only to the extent that the Court of Chancery of the State of Delaware, or the court in which such Proceeding shall have been brought or is pending, shall determine.

SECTION 4. INDEMNIFICATION FOR EXPENSES OF A PARTY WHO IS WHOLLY OR PARTLY SUCCESSFUL.--Notwithstanding any other provision of this Article, to the extent that Indemnitee is, by reason of his Corporate Status, a party to and is successful, on the merits or otherwise, in any Proceeding, he shall be indemnified to the maximum extent permitted by law against all Expenses, judgments, penalties, fines, and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection therewith. If Indemnitee is not wholly successful in such Proceeding but is successful, on the merits or otherwise, as to one or more but less than all claims, issues or matters in such Proceeding, the corporation shall indemnify Indemnitee to the maximum extent permitted by law against all Expenses, judgments, penalties, fines, and amounts paid in settlement actually and reasonably incurred by him or on his behalf in connection with each successfully resolved claim, issue or matter. For purposes of this Section and without limitation, the termination of any claim, issue or matter in such a Proceeding by dismissal, with or without prejudice, shall be deemed to be a successful result as to such claim, issue or matter.

SECTION 5. INDEMNIFICATION FOR EXPENSES OF A WITNESS.--Notwithstanding any other provision of this Article, to the extent that Indemnitee is, by reason of his Corporate Status, a witness in any Proceeding, he shall be indemnified against all Expenses actually and reasonably incurred by him or on his behalf in connection therewith.

SECTION 6. ADVANCEMENT OF EXPENSES.--Notwithstanding any provisions to the contrary in Section 7, the corporation shall advance all reasonable Expenses incurred by or on behalf of Indemnitee in connection with any Proceeding within twenty days after the receipt by the corporation of a statement or statements from Indemnitee requesting such advance or advances from time to time, whether prior to or after final disposition of such Proceeding. Such statement or statements shall reasonably evidence the Expenses incurred by Indemnitee and shall include or be preceded or accompanied by an undertaking by or on behalf of Indemnitee to repay any Expenses advanced if it shall ultimately be determined that Indemnitee is not entitled to be indemnified against such Expenses. Any advance and undertaking to repay pursuant to this Section 6 shall be unsecured and interest free.

SECTION 7. PROCEDURE FOR DETERMINATION OF ENTITLEMENT TO INDEMNIFICATION.--

(a) To obtain indemnification under this Article, Indemnitee shall submit to the corporation a written request, including therein or therewith such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification. The Secretary of the corporation shall, promptly upon receipt of such a request for indemnification, advise the Board of Directors in writing that Indemnitee has requested indemnification.

(b) Upon written request by Indemnitee for indemnification pursuant to the first sentence of Section 7(a) hereof, a determination, if required by applicable law, with respect to Indemnitee's entitlement thereto shall be made in the specific case: (i) if a Change in Control (as hereinafter defined) shall have occurred, by Independent Counsel (as hereinafter defined) (unless Indemnitee shall request that such determination be made by the Board of Directors or the stockholders, in which case by the person or persons or in the manner provided for in clauses (ii) or (iii) of this Section 7(b)) in a written opinion to the Board of Directors, a copy of which shall be delivered to Indemnitee; (ii) if a Change of Control shall not have occurred, (A) by the Board of Directors by a majority vote of a quorum consisting of Disinterested Directors (as hereinafter defined), or (B) if a quorum of the Board of Directors consisting of Disinterested Directors is not obtainable or, even if obtainable, such quorum of Disinterested Directors so directs, by Independent Counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to Indemnitee or (C) by the stockholders of the corporation; or (iii) as provided in Section 8(b) of this Article; and, if it is so determined that Indemnitee is entitled to indemnification, payment to Indemnitee shall be made within ten (10) days after such determination. Indemnitee shall cooperate with the person, persons or entity making such determination with respect to Indemnitee's entitlement to indemnification, including providing to such person, persons or entity upon reasonable advance request any documentation or information which is not privileged or otherwise protected from disclosure and which is reasonably available to Indemnitee and reasonably necessary to such determination. Any costs or expenses (including attorneys' fees and disbursements) incurred by Indemnitee in so cooperating with the person, persons or entity making such determination shall be borne by the corporation (irrespective of the determination as to Indemnitee's entitlement to indemnification) and the corporation hereby indemnifies and agrees to hold Indemnitee harmless therefrom.

(c) In the event the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 7(b) of this Article, the Independent Counsel shall be selected as provided in this Section 7(c). If a Change of Control shall not have occurred, the Independent Counsel shall be selected by the Board of Directors, and the corporation shall give written notice to Indemnitee advising him of the identity of the Independent Counsel so selected. If a Change of Control shall have occurred, the Independent Counsel shall be selected by Indemnitee (unless Indemnitee shall request that such selection be made by the Board of Directors, in which event the preceding sentence shall apply), and Indemnitee shall give written notice to the corporation advising it of the identity of the Independent Counsel so selected. In either event, Indemnitee or the corporation, as the case may be, may, within 7 days after such written notice of selection shall have been given, deliver to the corporation or to Indemnitee, as the case may be, a written objection to such selection. Such objection may be asserted only on the ground that the Independent Counsel so selected does not meet the requirements of "Independent Counsel" as defined in Section 13 of this Article, and the objection shall set forth with particularity the factual basis of such assertion. If such written objection is made, the Independent Counsel so selected may not serve as Independent Counsel unless and until a court has determined that such objection is without merit. If, within 20 days after submission by

Indemnitee of a written request for indemnification pursuant to Section 7(a) hereof, no Independent Counsel shall have been selected and not objected to, either the corporation or Indemnitee may petition the Court of Chancery of the State of Delaware or other court of competent jurisdiction for resolution of any objection which shall have been made by the corporation or Indemnitee to the other's selection of Independent Counsel and/or for the appointment as Independent Counsel of a person selected by the Court or by such other person as the Court shall designate, and the person with respect to whom an objection is so resolved or the person so appointed shall act as Independent Counsel under Section 7(b) hereof. The corporation shall pay any and all reasonable fees and expenses of Independent Counsel incurred by such Independent Counsel in connection with acting pursuant to Section 7(b) hereof, and the corporation shall pay all reasonable fees and expenses incident to the procedures of this Section 7(c), regardless of the manner in which such Independent Counsel was selected or appointed. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 9(a)(iii) of this Article, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing).

SECTION 8. PRESUMPTIONS AND EFFECT OF CERTAIN PROCEEDINGS.--

(a) In making a determination with respect to entitlement to indemnification hereunder, the person, persons or entity making such determination shall presume that Indemnitee is entitled to indemnification under this Article if Indemnitee has submitted a request for indemnification in accordance with Section 7(a) of this Article, and the corporation shall have the burden of proof to overcome that presumption in connection with the making by any person, persons or entity of any determination contrary to that presumption.

(b) If the person, persons or entity empowered or selected under Section 7 of this Article to determine whether Indemnitee is entitled to indemnification shall not have made such determination within 60 days after receipt by the corporation of the request therefor, the requisite determination of entitlement to indemnification shall be deemed to have been made and Indemnitee shall be entitled to such indemnification, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law; provided, however, that such 60-day period may be extended for a reasonable time, not to exceed an additional 30 days, if the person, persons or entity making the determination with respect to entitlement to indemnification in good faith requires such additional time for the obtaining or evaluating of documentation and/or information relating thereto; and provided, further, that the foregoing provisions of this Section 8(b) shall not apply (i) if the determination of entitlement to indemnification is to be made by the stockholders pursuant to Section 7(b) of this Article and if (A) within 15 days after receipt by the corporation of the request for such determination the Board of Directors has resolved to submit such determination to the stockholders for their consideration at an annual meeting thereof to be held within 75 days after such receipt and such determination is made thereat, or (B) a special meeting of stockholders is called within 15 days after such receipt for the purpose of making such determination, such meeting is held for such purpose within 60 days after having been so called and such determination is made thereat, or (ii) if the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 7(b) of this Article.

(c) The termination of any Proceeding or of any claim, issue or matter therein by judgment, order, settlement or conviction, or upon a plea of nolo contendere or its equivalent, shall not (except as otherwise expressly provided in this Article) of itself adversely affect the right of Indemnitee to indemnification or create a presumption that Indemnitee did not act in Good Faith.

(d) For purposes of any determination of Good Faith, Indemnitee shall be deemed to have acted in Good Faith if Indemnitee's action is based on the records or books of account of the Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of the Enterprise in the course of their duties, or on the advice of legal counsel for the Enterprise or on information or records given or reports made to the Enterprise by an independent certified public accountant or by an appraiser or other expert selected with reasonable care by the Enterprise. The provisions of this Section 7(d) shall not be deemed to be exclusive or to limit in any way the other circumstances in which the Indemnitee may be deemed to have met the applicable standard of conduct set forth in this Article.

(e) The knowledge and/or actions, or failure to act, of any director, officer, agent or employee of the Enterprise shall not be imputed to Indemnitee for purposes of determining the right to indemnification under this Article.

SECTION 9. REMEDIES OF INDEMNITEE.--

(a) In the event that (i) a determination is made pursuant to Section 7 of this Article that Indemnitee is not entitled to indemnification under this Article, (ii) advancement of Expenses is not timely made pursuant to Section 6 of this Article, (iii) the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 7(b) of this Article and such determination shall not have been made and delivered in a written opinion within 90 days after receipt by the corporation of the request for indemnification, (iv) payment of indemnification is not made pursuant to Section 5 of this Article within ten (10) days after receipt by the corporation of a written request therefor, or (v) payment of indemnification is not made within ten (10) days after a determination has been made that Indemnitee is entitled to indemnification or such determination is deemed to have been made pursuant to Section 8 of this Article, Indemnitee shall be entitled to an adjudication in an appropriate court of the State of Delaware, or in any other court of competent jurisdiction, of his entitlement to such indemnification or advancement of Expenses. Alternatively, Indemnitee, at his option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the rules of the American Arbitration Association. Indemnitee shall commence such proceeding seeking an adjudication or an award in arbitration within 180 days following the date on which Indemnitee first has the right to commence such proceeding pursuant to this Section 9(a). The corporation shall not oppose Indemnitee's right to seek any such adjudication or award in arbitration.

(b) In the event that a determination shall have been made pursuant to Section 7 of this Article that Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 9 shall be conducted in all respects as a de novo trial, or arbitration, on the merits and Indemnitee shall not be prejudiced by reason of that adverse determination. In any judicial proceeding or arbitration commenced pursuant to this Section 9 the corporation shall have the burden of proving that Indemnitee is not entitled to indemnification or advancement of Expenses, as the case may be.

(c) If a determination shall have been made or deemed to have been made pursuant to Section 7 or 8 of this Article that Indemnitee is entitled to indemnification, the corporation shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 9, absent (i) a misstatement by Indemnitee of a material fact, or an omission of a material fact necessary to make Indemnitee's statement not materially misleading, in connection with the request for indemnification, or (ii) a prohibition of such indemnification under applicable law.

(d) The corporation shall be precluded from asserting in any judicial proceeding or arbitration commenced pursuant to this Section 9 that the procedures and presumptions of this Article are not valid, binding and enforceable and shall stipulate in any such court or before any such arbitrator that the corporation is bound by all the provisions of this Article.

(e) In the event that Indemnitee, pursuant to this Section 9, seeks a judicial adjudication of or an award in arbitration to enforce his rights under, or to recover damages for breach of, this Article, Indemnitee shall be entitled to recover from the corporation, and shall be indemnified by the corporation against, any and all expenses (of the types described in the definition of Expenses in Section 13 of this Article) actually and reasonably incurred by him in such judicial adjudication or arbitration, but only if he prevails therein. If it shall be determined in said judicial adjudication or arbitration that Indemnitee is entitled to receive part but not all of the indemnification or advancement of expenses sought, the expenses incurred by Indemnitee in connection with such judicial adjudication or arbitration shall be appropriately prorated.

SECTION 10. NON-EXCLUSIVITY; SURVIVAL OF RIGHTS; INSURANCE; SUBROGATION.--

(a) The rights of indemnification and to receive advancement of Expenses as provided by this Article shall not be deemed exclusive of any other rights to which Indemnitee may at any time be entitled under applicable law, the Certificate of Incorporation, the By-Laws, any agreement, a vote of stockholders or a resolution of directors, or otherwise. The rights conferred by this

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Article shall be deemed contract rights and no amendment, alteration or repeal of this Article or of any provision hereof shall be effective as to any Indemnitee with respect to any action taken or omitted by such Indemnitee in his Corporate Status prior to such amendment, alteration or repeal. The provisions of this Article shall continue as to an Indemnitee whose Corporate Status has ceased and shall inure to the benefit of his heirs, executors and administrators.

(b) To the extent that the corporation maintains an insurance policy or policies providing liability insurance for directors, officers, employees, agents or fiduciaries of the corporation or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which such person serves at the request of the corporation, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee or agent under such policy or policies.

(c) In the event of any payment under this Article, the corporation shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the corporation to bring suit to enforce such rights.

(d) The corporation shall not be liable under this Article to make any payment of amounts otherwise indemnifiable hereunder if and to the extent that Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement or otherwise.

(e) The corporation shall have the express authority to enter into such agreements as the Board of Directors deems appropriate for the indemnification of present or future directors, officers, employees or agents of the corporation in connection with their service to, or status with, any Enterprise.

SECTION 11. SEVERABILITY.--If any provision or provisions of this Article shall be held to be invalid, illegal or unenforceable for any reason whatsoever: (a) the validity, legality and enforceability of the remaining provisions of this Article (including without limitation, each portion of any Section of this Article containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby; and (b) to the fullest extent possible, the provisions of this Article (including, without limitation, each portion of any Section of this Article containing any such provision held to be invalid, illegal or unenforceable, that is not itself invalid, illegal or unenforceable) shall be construed so as to give effect to the intent manifested by the provision held invalid, illegal or unenforceable.

SECTION 12. CERTAIN PERSONS NOT ENTITLED TO INDEMNIFICATION OR ADVANCEMENT OF EXPENSES.--Notwithstanding any other provision of this Article, no person shall be entitled to indemnification or advancement of Expenses under this Article with respect to any Proceeding, or any claim therein other than to enforce indemnification rights under this Article, brought or made by him against the corporation.

SECTION 13. DEFINITIONS.--For purposes of this Article:

(a) "Change in Control" means a change in control of the corporation occurring after the Effective Date of a nature that would be required to be reported in response to Item 5(f) of Schedule 14A of Regulation 14A (or in response to any similar item on any similar schedule or form) promulgated under the Securities Exchange Act of 1934 (the "Act"), whether or not the corporation is then subject to such reporting requirement; provided, however, that, without limitation, such a Change in Control shall be deemed to have occurred if after the Effective Date (i) any "person" (as such term is used in Sections 13(d) and 14(d) of the Act) is or becomes the "beneficial owner" (as defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the corporation representing 50% or more of the combined voting power of the corporation's then outstanding securities without the prior approval of at least two-thirds of the members of the Board of Directors in office immediately prior to such person attaining such percentage interest; (ii) the corporation is a party to a merger, consolidation, sale of assets or other reorganization, or a proxy contest, as a consequence of which members of the Board of Directors in office immediately prior to such transaction or event constitute less than a majority of the Board

of Directors thereafter; or (iii) during any period of two consecutive years, individuals who at the beginning of such period constituted the Board of Directors (including for this purpose any new director whose election or nomination for election by the corporation's stockholders was approved by a vote of at least two-thirds of the directors then still in office who were directors at the beginning of such period) cease for any reason to constitute at least a majority of the Board of Directors.

(b) "Corporate Status" describes the status of a person who is or was a director, officer, employee, agent or fiduciary of the corporation or of any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise which such person is or was serving at the request of the corporation.

(c) "Disinterested Director" means a director of the corporation who is not and was not a party to the Proceeding in respect of which indemnification is sought by Indemnitee.

(d) "Effective Date" means September 11, 1986.

(e) "Enterprise" shall mean the corporation and any other corporation, partnership, joint venture, trust, employee benefit plan or other enterprise of which Indemnitee is or was serving at the request of the corporation as a director, officer, employee, agent or fiduciary.

(f) "Expenses" shall include all reasonable attorneys' fees, retainers, court costs, transcript costs, fees of experts, witness fees, travel expenses, duplicating costs, printing and binding costs, telephone charges, postage, delivery service fees, and all other disbursements or expenses of the types customarily incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, or being or preparing to be a witness in a Proceeding.

(g) "Good Faith" shall mean Indemnitee having acted in good faith and in a manner Indemnitee reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal Proceeding, having had no reasonable cause to believe Indemnitee's conduct was unlawful.

(h) "Indemnitee" includes any person who is, or is threatened to be made, a witness in or a party to any Proceeding as described in Sections 2, 3, 4 or 5 of this Article by reason of his Corporate Status.

(i) "Independent Counsel" means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently is, nor in the past five years has been, retained to represent (i) the corporation or Indemnitee in any matter material to either such party, or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term "Independent Counsel" shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the corporation or Indemnitee in an action to determine Indemnitee's rights under this Article.

(j) "Proceeding" includes any threatened, pending or completed action, suit, arbitration, alternate dispute resolution mechanism, investigation, administrative hearing or any other threatened, pending or completed proceeding whether civil, criminal, administrative or investigative, except one initiated by an Indemnitee. For purposes of the foregoing sentence, a "Proceeding" shall not be deemed to have been initiated by Indemnitee where Indemnitee seeks pursuant to Section 9 of this Article to enforce his rights under this Article.

SECTION 14. NOTICES.--Any notice, request or other communication required or permitted to be given to the corporation under this Article shall be in writing and either delivered in person or sent by telex, telegram or certified or registered mail, postage prepaid, return receipt requested, to the Secretary of the corporation and shall be effective only upon receipt by the Secretary.

SECTION 15. MISCELLANEOUS.--Use of the masculine pronoun shall be deemed to include usage of the feminine pronoun where appropriate.